

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/977, 579 A  
Source: IFW16  
Date Processed by STIC: 11/08/2005

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 11/08/2005

PATENT APPLICATION: US/09/977,579A

TIME: 07:51:54

Input Set : A:\PTO.TS.TXT

Output Set: N:\CRF4\11082005\I977579A.raw

3 <110> APPLICANT: Cambridge University Technical Services  
 5 <120> TITLE OF INVENTION: A novel family of beta sub-unit proteins from a voltage  
 gated sodium  
 6 channel nucleic acids encoding them and therapeutic or diagnostic uses thereof  
 8 <130> FILE REFERENCE: 674558-2001  
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/977,579A  
 11 <141> CURRENT FILING DATE: 2001-10-15  
 13 <150> PRIOR APPLICATION NUMBER: PCT/EP00/01783  
 14 <151> PRIOR FILING DATE: 2000-02-24  
 16 <150> PRIOR APPLICATION NUMBER: 60,129,473  
 17 <151> PRIOR FILING DATE: 2000-02-24  
 19 <160> NUMBER OF SEQ ID NOS: 49  
 21 <170> SOFTWARE: PatentIn version 3.2  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 215  
 26 <212> TYPE: PRT  
 27 <213> ORGANISM: Rat  
 29 <400> SEQUENCE: 1  
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 34 Tyr Trp Val Arg Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu  
 35 20 25 30  
 37 Thr Glu Ala Val Gln Gly Asn Pro Met Lys Leu Arg Cys Ile Ser Cys  
 38 35 40 45  
 40 Met Lys Arg Glu Glu Val Glu Ala Thr Thr Val Val Glu Trp Phe Tyr  
 41 50 55 60  
 43 Arg Pro Glu Gly Gly Lys Asp Phe Leu Ile Tyr Glu Tyr Arg Asn Gly  
 44 65 70 75 80  
 46 His Gln Glu Val Glu Ser Pro Phe Gln Gly Arg Leu Gln Trp Asn Gly  
 47 85 90 95  
 49 Ser Lys Asp Leu Gln Asp Val Ser Ile Thr Val Leu Asn Val Thr Leu  
 50 100 105 110  
 52 Asn Asp Ser Gly Leu Tyr Thr Cys Asn Val Ser Arg Glu Phe Glu Phe  
 53 115 120 125  
 55 Glu Ala His Arg Pro Phe Val Lys Thr Thr Arg Leu Ile Pro Leu Arg  
 56 130 135 140  
 58 Val Thr Glu Glu Ala Gly Glu Asp Phe Thr Ser Val Val Ser Glu Ile  
 59 145 150 155 160  
 61 Met Met Tyr Ile Leu Leu Val Phe Leu Thr Leu Trp Leu Phe Ile Glu  
 62 165 170 175  
 64 Met Ile Tyr Cys Tyr Arg Lys Val Ser Lys Ala Glu Glu Ala Ala Gln  
 65 180 185 190  
 67 Glu Asn Ala Ser Asp Tyr Leu Ala Ile Pro Ser Glu Asn Lys Glu Asn  
 68 195 200 205

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70 Ser Val Val Pro Val Glu Glu

71 210 215

74 &lt;210&gt; SEQ ID NO: 2

75 &lt;211&gt; LENGTH: 215

76 &lt;212&gt; TYPE: PRT

77 &lt;213&gt; ORGANISM: Homo sapiens

79 &lt;400&gt; SEQUENCE: 2

81 Met Pro Ala Phe Asn Arg Leu Phe Pro Leu Ala Ser Leu Val Leu Ile

82 1 5 10 15

84 Tyr Trp Val Ser Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu

85 20 25 30

87 Thr Glu Ala Val Gln Gly Asn Pro Met Lys Leu Arg Cys Ile Ser Cys

88 35 40 45

90 Met Lys Arg Glu Glu Val Glu Ala Thr Thr Val Val Glu Trp Phe Tyr

91 50 55 60

93 Arg Pro Glu Gly Gly Lys Asp Phe Leu Ile Tyr Glu Tyr Arg Asn Gly

94 65 70 75 80

96 His Gln Glu Val Glu Ser Pro Phe Gln Gly Arg Leu Gln Trp Asn Gly

97 85 90 95

99 Ser Lys Asp Leu Gln Asp Val Ser Ile Thr Val Leu Asn Val Thr Leu

100 100 105 110

102 Asn Asp Ser Gly Leu Tyr Thr Cys Asn Val Ser Arg Glu Phe Glu Phe

103 115 120 125

105 Glu Ala His Arg Pro Phe Val Lys Thr Thr Arg Leu Ile Pro Leu Arg

106 130 135 140

108 Val Thr Glu Glu Ala Gly Glu Asp Phe Thr Ser Val Val Ser Glu Ile

109 145 150 155 160

111 Met Met Tyr Ile Leu Leu Val Phe Leu Thr Leu Trp Leu Leu Ile Glu

112 165 170 175

114 Met Ile Tyr Cys Tyr Arg Lys Val Ser Lys Ala Glu Glu Ala Ala Gln

115 180 185 190

117 Glu Asn Ala Ser Asp Tyr Leu Ala Ile Pro Ser Glu Asn Lys Glu Asn

118 195 200 205

120 Ser Ala Val Pro Val Glu Glu

121 210 215

124 &lt;210&gt; SEQ ID NO: 3

125 &lt;211&gt; LENGTH: 2220

126 &lt;212&gt; TYPE: DNA

127 &lt;213&gt; ORGANISM: rat

129 &lt;400&gt; SEQUENCE: 3

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132 atccaggaac gcgccccacg gaaaggggtc cctcgggtcta cccatcctcc acctctgaga 120

134 tcacccaccc caccggagggt cccacctctt tccacccctg aaggacctcc tgtgagcccg 180

136 ggaccctgtg tacaggactg aagtggaaaca aattctgtag cccagacgac ggctggagtg 240

138 gggacacgcc caactgaaga agcctgcccc gccgtagaag cccgagatcc tgagtctcgg 300

140 tggattgaag tcgttgtccc tgggggaggc aagagcttca gaaatcgctt acggtggaaa 360

142 agatgcctgc cttcaacaga ttgcttcccc tagcttctct agtgctcatc tactgggtca 420

144 gagtctgctt ccctgtgtgt gtggaagtgc cctcggagac agaagcgggtg cagggcaatc 480

146 ccatgaagct gaggtgcata tcctgcatga agagggagga ggtggaggcc accactgtgg 540

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150 gccaccagga agtggagagc cccttccaag gccgtctgca gtggaatggg agcaaagacc 660
152 tgcaggacgt atccatcact gtactcaatg tcactttgaa tgactctggc ctctacacat 720
154 gcaatgtgtc cagggaggtt gaattcgagg cacacaggcc ttttgtgaag accacgagac 780
156 tgataccttt gcgagtcact gaagaggcgg gagaagactt cacctcggg gtctcggaaa 840
158 tcatgatgta catcctcctg gtcttctca ccttgtggct gtttattgag atgatctatt 900
160 gctacagaaa ggtctctaag gccgaagagg cagcacagga aaatgcgtct gactaccttg 960
162 ctatcccttc agagaacaag gagaactctg tggtagctgt ggaggaataa tgtggtgtga 1020
164 cttgaggtga tgtacacagg catctgggag ggtgatctga gtgctgaggg actggatata 1080
166 cccagttcag tgatgccagc aatatcagga agtgcctcag gtgtcccaac acatccatct 1140
168 tttctattca tcaaccacca acccaatgtg agattttcac ctgacttcgg aactctatca 1200
170 gaactctaca catctttacc ttgcctgaac cgaagagcca acatctatct ctacacggac 1260
172 taaacctcac tctgttcttg cttccaacca agtaactccc aacttaacta gaggttgttc 1320
174 ctatgttcca aatgatttag acaagtactg gagagtagta ttacctctgc cctgactgtc 1380
176 tgtgactggg tcattctcca ctgcagcaaa aggatggata taaatcggaa gaaagccctg 1440
178 actagtttgt cttaaagcca aagcgtgcca cgtacgtact ttgattcatt gaagtcagtt 1500
180 tttcctgctt ctcagagcgc cagaaagcat gccctaatg cttgcaggga catcatctgt 1560
182 gtgcactgga acgctttctg gagctcagtg tttggaggct gtatcccat aatcctgaag 1620
184 acctggagca aaccagaaac ttccagggaag tcccaaggaa ggatccagga cagtttcagg 1680
186 gtctcgaaaa tgatataaca cactcctgat attggaaaca tggatgagtg acctttcttg 1740
188 attgaaactc ctcagttctt catgtctcag tgtctgtgga tcagtattag tccctggttt 1800
190 acaggaggaa actgagactc acacaaggct gaacaggaca tttaggggat taaactgggc 1860
192 cagagatgac tttcctgcca ccaacctcac actcctggg atgagaggta tttttgagg 1920
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206 <211> LENGTH: 1261
207 <212> TYPE: DNA
208 <213> ORGANISM: Homo sapiens
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215 gcgggcgcgg agcggctgat cggctccctc gaactgggga ggtccagtgg ggtcgcttag 180
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221 aaagaatctg agagggcgca gtccttgacc gagggaatct ctctgtgtag ccttggaagc 360
223 cgccagcccc agaagatgcc tgccctcaat agattgtttc cctgggttc tctcggtctt 420
225 atctactggg tcagtgtctg cttccctgtg tgtgtggaag tgccctcgga gacggaggcc 480
227 gtgcagggca accccatgaa gctgcgtctc atctcctgca tgaagagaga ggaggtggag 540
229 gccaccacgg tgggtggaatg gttctacagg cccgaggggc gtaaagattt cttattttac 600
231 gagtatcgga atggccacca ggaggtggag agccctttc aggggcgcct gcagtggaat 660
233 ggcagcaagg acctgcagga cgtgtccatc actgtgtctc acgtcactct gaacgactct 720
235 ggcctctaca cctgcaatgt gtcccgggag tttgagtttg aggcgcctcg gccctttgtg 780
237 aagacgacgc ggctgatccc cctaagagtc accgaggagg ctggagagga cttcacctct 840
239 gtggtctcag aaatcatgat gtacatcctt ctggtcttcc tcacctgtg gctgctcatc 900
241 gagatgatat attgctacag aaaggtctca aaagccgaag aggcagccca agaaaacgcg 960

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247 ttcagcaatg tcaatggcat caggagggcg cccaagggc cccatcgctt cccttcatgc 1140
249 atccattggt ctgttcattc attcatccat acatccacct gcctctgagc tttcacctct 1200
251 gactccctaa ctccatcaga cctctacgca ccataagact ctgccagaac tgagaagccg 1260
253 g 1261
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257 <211> LENGTH: 24
258 <212> TYPE: PRT
259 <213> ORGANISM: Homo sapiens
261 <400> SEQUENCE: 5
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266 Tyr Trp Val Ser Val Cys Phe Pro
267 20
270 <210> SEQ ID NO: 6
271 <211> LENGTH: 24
272 <212> TYPE: PRT
273 <213> ORGANISM: rat
275 <400> SEQUENCE: 6
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278 1 5 10 15
280 Tyr Trp Val Arg Val Cys Phe Pro
281 20
284 <210> SEQ ID NO: 7
285 <211> LENGTH: 19
286 <212> TYPE: PRT
287 <213> ORGANISM: homo sapiens
289 <400> SEQUENCE: 7
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292 1 5 10 15
294 Tyr Trp Val
298 <210> SEQ ID NO: 8
299 <211> LENGTH: 19
300 <212> TYPE: PRT
301 <213> ORGANISM: rat
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306 1 5 10 15
308 Tyr Trp Val
312 <210> SEQ ID NO: 9
313 <211> LENGTH: 12
314 <212> TYPE: PRT
315 <213> ORGANISM: homo sapiens
317 <400> SEQUENCE: 9
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320 1 5 10
323 <210> SEQ ID NO: 10
324 <211> LENGTH: 12

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TIME: 07:51:54

Input Set : A:\PTO.TS.TXT

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335 <211> LENGTH: 15
336 <212> TYPE: PRT
337 <213> ORGANISM: homo sapiens
339 <400> SEQUENCE: 11
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342 1 5 10 15
345 <210> SEQ ID NO: 12
346 <211> LENGTH: 15
347 <212> TYPE: PRT
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350 <400> SEQUENCE: 12
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353 1 5 10 15
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357 <211> LENGTH: 5
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359 <213> ORGANISM: homo sapiens
361 <400> SEQUENCE: 13
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364 1 5
367 <210> SEQ ID NO: 14
368 <211> LENGTH: 5
369 <212> TYPE: PRT
370 <213> ORGANISM: rat
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375 1 5
378 <210> SEQ ID NO: 15
379 <211> LENGTH: 11
380 <212> TYPE: PRT
381 <213> ORGANISM: Homo sapiens
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386 1 5 10
389 <210> SEQ ID NO: 16
390 <211> LENGTH: 11
391 <212> TYPE: PRT
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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 11/08/2005  
PATENT APPLICATION: US/09/977,579A      TIME: 07:51:55

Input Set : A:\PTO.TS.TXT  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:49; N Pos. 138

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 6

**VERIFICATION SUMMARY**

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L:10 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:941 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:120